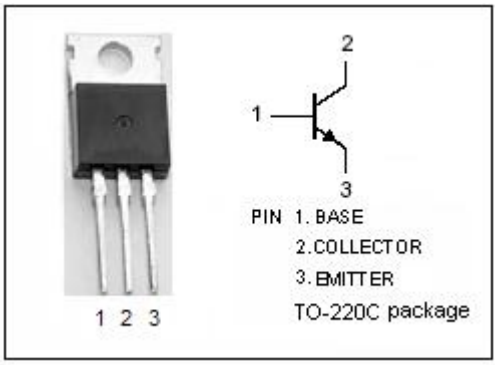
SPTECH Silicon NPN Power Transistor 2SC3157

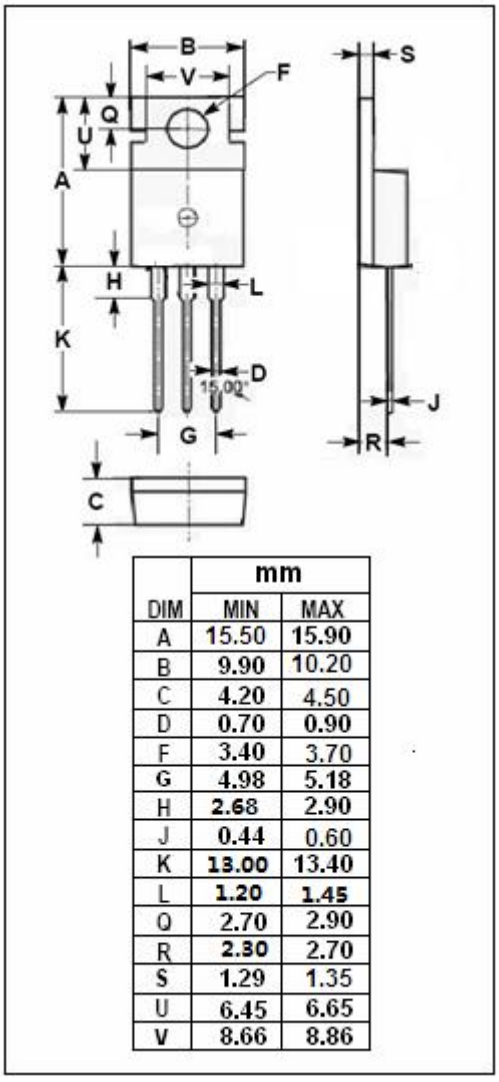
DESCRIPTION

- Low Collector Saturation Voltage-
  : $V_{CE(sat)}$= 0.6V(Max.)@I_C= 5A
- Fast Switching Speed
- Complement to Type 2SA1261



APPLICATIONS

- Developed for high-voltage high-speed switching, and is ideal for use as a driver in devices such as switching reglators, DC/DC converters, and high frequency power amplifiers.



DIM	mm MIN	MAX
A	15.50	15.90
B	9.90	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	13.00	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	150	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	7.0	V
I_C	Collector Current-Continuous	10	A
I_{CM}	Collector Current-Peak	20	A
I_B	Base Current-Continuous	3.5	A
P_C	Collector Power Dissipation @ T_a=25℃	1.5	W
	Collector Power Dissipation @ T_C=25℃	60	
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 50mA; I_B= 0	100		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 5.0A; I_B= 0.5A		0.6	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 5.0A; I_B= 0.5A		1.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 100V; I_E= 0		10	μA
I_{CEX}	Collector Cutoff Current	V_{CE}= 100V; $V_{BE(off)}$= -1.5V V_{CE}= 100V; $V_{BE(off)}$= -1.5V, T_a=125℃		10 1.0	μA mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0		10	μA
h_{FE-1}	DC Current Gain	I_C= 0.5A; V_{CE}= 5V	40	200	
h_{FE-2}	DC Current Gain	I_C= 3.0A; V_{CE}= 5V	40	200	
h_{FE-3}	DC Current Gain	I_C= 5.0A; V_{CE}= 5V	20		
Switching times					
t_{on}	Turn-on Time	I_C= 5.0A, R_L= 10Ω, I_{B1}= -I_{B2}= 0.5A, V_{CC}≈ 50V		0.5	μs
t_{stg}	Storage Time			1.5	μs
t_f	Fall Time			0.5	μs

◆ **h_{FE-2} Classifications**

M	L	K
40-80	60-120	100-200

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